

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A process for forming a thin film comprising a metal, comprising:

exposing a heated substrate alternately to the vapor of one or more volatile metal amidinate compounds of claim 18, and then to a reducing gas or vapor, to form a metal coating on the surface of the substrate.

2. (Original) The process of claim 1, wherein said reducing gas is hydrogen.

3. (Currently Amended) A process for forming a thin film comprising a metal nitride, comprising:

exposing a heated substrate alternately to the vapor of one or more volatile metal amidinate compounds of claim 18, and then to a nitrogen-containing gas or vapor, to form a metal nitride coating on the surface of the substrate.

4. (Original) The process of claim 3, wherein the nitrogen-containing gas is ammonia.

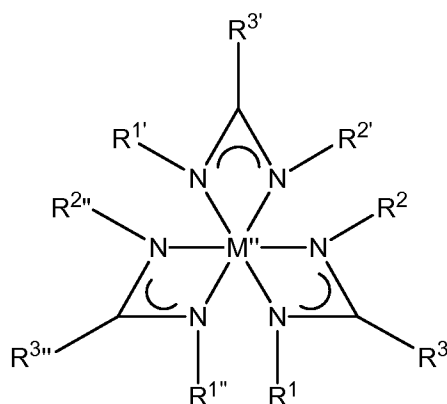
5. (Currently Amended) A process for forming a thin film comprising a metal oxide, comprising:

exposing a heated substrate alternately to the vapor of one or more volatile metal amidinate compounds of claim 18, and then to an oxygen-containing gas or vapor, to form a metal oxide coating on the surface of the substrate.

6. (Original) The process of claim 5, wherein the oxygen-containing vapor is water vapor.

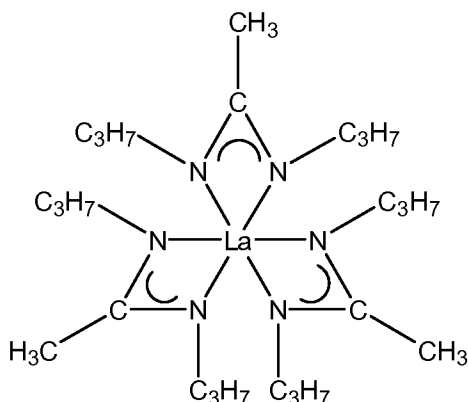
7 – 17. (Canceled)

18. (Previously Presented) A composition of matter that is a volatile metal(III) tris(amidinate) represented by the general formula



or oligomers thereof, wherein the metal M is selected from lanthanum, praseodymium and the other lanthanide metals, yttrium, scandium, titanium, vanadium, chromium, iron, ruthenium, cobalt, rhodium, iridium, and bismuth, and wherein R^1 , $R^{1'}$, R^2 , and $R^{2'}$ independently represent alkyl groups, alkenyl groups, alkynyl groups, trialkylsilyl groups, or other non-metal atoms or groups that are not aryl, and R^3 and $R^{3'}$ independently represent hydrogen, alkyl groups, alkenyl groups, alkynyl groups, trialkylsilyl groups, or other non-metal atoms or groups that are not aryl.

19. (Original) A composition of matter as in claim 18 having the chemical name lanthanum(III) tris(*N,N'*-diisopropylacetamidinate) and structural formula



20. (Currently Amended) A process for forming a thin film comprising a transition metal or a lanthanide metal, the process comprising:

exposing one or more volatile metal amidinate compounds of claim 18, ~~wherein the metal comprises a transition metal or a lanthanide metal,~~ to a substrate ~~to form the thin film comprising a transition metal or a lanthanide metal.~~

21. (Previously Presented) The process of claim 20, further comprising:

exposing a reducing gas to the substrate.

22. (Previously Presented) The process of claim 21, wherein the reducing gas or vapor is hydrogen.

23. (Previously Presented) The process of claim 20, wherein the thin film comprises a metal nitride.

24. (Previously Presented) The process of claim 23, further comprising:

exposing a gas comprising nitrogen to the substrate.

25. (Previously Presented) The process of claim 24, wherein the gas comprising nitrogen is ammonia.

26. (Previously Presented) The process of claim 20, wherein the thin film comprises a metal oxide.

27. (Previously Presented) The process of claim 26, further comprising:

exposing a gas comprising oxygen to the substrate.

28. (Previously Presented) The process of claim 27, wherein the gas comprising oxygen is water vapor.

29-43. (Canceled)

44. (Previously Presented) The composition of matter as claimed in claim 18, wherein R^n represent unsubstituted alkyl groups.

45. (Previously Presented) The composition of matter as claimed in claim 18, wherein R^n represent alkyl groups substituted with fluorine or other non-metal atoms.